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Dr. Raymond W. Waldo
Station Manager
San Onofre

December 31, 2002

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555-0001

Subject: **Docket No. 50-361**
Licensee Event Report No. 2002-007
San Onofre Nuclear Generating Station, Unit 2

Gentlemen:

This submittal provides a Licensee Event Report (LER) for an occurrence involving a manual reactor trip caused by a Pressurizer spray valve malfunction.

Any actions listed are intended to ensure continued compliance with existing commitments as discussed in applicable licensing documents; this LER contains no new commitments. If you require any additional information, please so advise.

Sincerely,

Raymond Waldo

Enclosure: LER No. 2002-007

cc: E. W. Merschoff, Regional Administrator, NRC Region IV
C. C. Osterholtz, NRC Senior Resident Inspector, San Onofre Units 2 & 3

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NRC FORM 366 (7-2001) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104 EXPIRES 7-31-2004

Estimated burden per response to comply with this mandatory information collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
San Onofre Nuclear Generation Station (SONGS) Unit 2	05000-361	1 OF 3

4. TITLE

Pressurizer Spray Valve Malfunction Results in a Reactor Trip

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
									None	
11	04	2002	2002	007	00	12	31	2002	FACILITY NAME	DOCKET NUMBER

9. OPERATING MODE	1
10. POWER LEVEL	18

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)

20.2201(b)	20.2203(a)(3)(ii)	50.73(a)(2)(ii)(B)	50.73(a)(2)(ix)(A)
20.2201(d)	20.2203(a)(4)	50.73(a)(2)(iii)	50.73(a)(2)(x)
20.2203(a)(1)	50.36(c)(1)(i)(A)	X 50.73(a)(2)(iv)(A)	73.71(a)(4)
20.2203(a)(2)(i)	50.36(c)(1)(ii)(A)	50.73(a)(2)(v)(A)	73.71(a)(5)
20.2203(a)(2)(ii)	50.36(c)(2)	50.73(a)(2)(v)(B)	OTHER
20.2203(a)(2)(iii)	50.46(a)(3)(ii)	50.73(a)(2)(v)(C)	Specify in Abstract below or in NRC Form 366A
20.2203(a)(2)(iv)	50.73(a)(2)(i)(A)	50.73(a)(2)(v)(D)	
20.2203(a)(2)(v)	50.73(a)(2)(i)(B)	50.73(a)(2)(vii)	
20.2203(a)(2)(vi)	50.73(a)(2)(i)(C)	50.73(a)(2)(viii)(A)	
20.2203(a)(3)(i)	50.73(a)(2)(ii)(A)	50.73(a)(2)(viii)(B)	

12. LICENSEE CONTACT FOR THIS LER

NAME	TELEPHONE NUMBER (Include Area Code)
R. W. Waldo, Station Manager, Nuclear Generation	949-368-8725

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
X	AB	PCV	I208	N					

14. SUPPLEMENTAL REPORT EXPECTED			15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X	NO				

16. ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On November 4, 2002, at about 1625 PST, one of the two-pressurizer spray valves began operating erratically, and ultimately stopped moving at 47 percent open and caused pressurizer pressure to decrease. Attempts to close the spray valve were unsuccessful. At 1638 PST, plant operators manually tripped the reactor. At 2215 PST, SCE made a 4-hour telephone notification to the NRC in accordance with 10 CFR 50.72(b)(2)(iv)(B). SCE is providing this follow-up report in accordance with 10 CFR 50.73(a)(2)(iv)(A).

The cause of pressurizer spray valve's behavior has not yet been determined. Testing and observation suggest internal binding. This valve will be disassembled during the next refueling outage. On November 4, 2002, spray valve PV-0100A was isolated when the inlet and outlet manual block valves were closed. The second pressurizer spray valve will be used for the remainder of the operating cycle.

A causal evaluation and applicable corrective actions will be performed following the valve disassembly as part of the corrective actions program.

The pressurizer spray valves are not safety related, are not included within the Technical Specifications and are not required for accident mitigation purposes. SCE concludes that this event was of low to no safety significance.

Reactor Vendor Combustion Engineering

Description of the Event

On November 4, 2002 (event date), with the Unit 2 at about 18 percent power, plant operators were returning the unit to full power operation following an unscheduled shutdown (see LER 2-2002-006). At about 1625 PST, one of the two-pressurizer spray valves (PV-0100A, model number 84/10900/0673) {EIIS Component Code PCV} began operating erratically, and ultimately stopped moving at 47 percent open and caused pressurizer pressure to decrease. Attempts to close the spray valve were unsuccessful. At 1638 PST, Reactor Coolant System (RCS) pressure decreased below TS 3.4.1 minimum allowed pressure of 2025 psia and at 1644 PST, plant operators (utility, licensed) manually tripped the reactor. At 2215 PST, Southern California Edison (SCE) made a 4 hour telephone notification to the NRC Operations Center (Log No. 39343) in accordance with 10 CFR 50.72((b)(2)(iv)(B) for a manual actuation of the Reactor Protection System. SCE is providing this follow-up report in accordance with 10 CFR 50.73(a)(2)(iv)(A).

Cause of the Event:

The cause of pressurizer spray valve's behavior has not yet been determined. Testing and observation suggest internal binding (Cause Code. X). This valve will be disassembled during the next refueling outage.

Corrective Actions:

On November 4, 2002, spray valve PV-0100A was isolated when the inlet and outlet manual block valves were closed. Some testing of this valve was performed and then the valve was left isolated with the manual inlet and outlet valves closed.

The second pressurizer spray valve (2PV0100B) will be used for the remainder of the operating cycle. This valve was tested on November 5, 2002 and the test results and observation indicate the valve is operating as expected.

A causal evaluation and applicable corrective actions will be performed following the valve disassembly as part of the corrective actions program.

Safety Significance:

The pressurizer spray valves are not safety related, are not included within the Technical Specifications and are not required for accident mitigation purposes. The requirement for these valves to function is not credited in any of the Chapter 15 analysis. A malfunction of these valves, causing increased spray flow, is considered in the design of the Core Protection Calculator (CPC) system. Protection for this malfunction is provided by the CPC DNBR trip. Therefore, SCE concludes that this event was of low to no safety significance.

An assessment of the conditional core damage probability (CCDP) and the conditional large early release probability (CLERP) for the November 4, 2002 event, determined that the Unit 2 CCDP and CLERP were 3.4E-7 and 1.6E-8, respectively. The assessment was based on the reported actual component unavailability and system alignments at the time of the event.

Additional Information:

Spray valves have previously experienced galling in the anti-rotational device. Design changes were implemented to correct this condition by removing the anti-rotation device from the internal bellows.